What is claimed is:

1. An animal feed comprised of at least one amino acid, whereby said animal feed comprises:

(a) an amount of grain; and,

(b) an amount of at least one polypeptide expressed by a transformant organism, with said polypeptide ordinarily exogenous to said organism and comprised of specific amino acids in a specific ratio.

2. The animal feed of Claim 1 wherein said transformed organism is added to said animal feed and is selected from the group consisting of transformed non-toxic eukaryotes and prokaryotes.

3. The animal feed of Claim 1 wherein said transformed organism is selected from the group consisting of transformed fungi and transformed bacteria

4. The animal feed of Claim 3 wherein said transformed fungi is a transformed yeast strain.

5. The animal feed of Claim 1 wherein said transformed organism comprises a gene selected from the group consisting of synthetic nucleic acid polymers and natural nucleic acid polymers, so that when expressed, said nucleic acid polymer expresses said polypeptide ordinarily exogenous to said transformed organism.

6. The animal feed of Claim 4 wherein said transformed yeast strain comprises a nucleic acid polymer for expressing a peptide and a promoter, with said promoter yeast derived.

7. The animal feed of Claim 1 wherein said polypeptide is at least two amino acids long.

8. The animal feed of Claim 1 wherein said polypeptide comprises at least two different amino acid species.

9. The animal feed of Claim 1 wherein said cereal grains are selected from the group consisting of soybean, corn, barley, rice, wheat, oats, millet, maize, sunflower, canola, grass, and combinations thereof.

10. The animal feed of Claim 1 wherein said polypeptide is purified.

11. The animal feed of Claim 8 wherein said polypeptide comprises at least five different amino acid species.

12. The animal feed of Claim 1 wherein said polypeptide comprises a percentage of lysine molecules equal to 100% recommended lysine.

13. A method for forming an animal feed having a desired amount of amino acids, whereby said method comprises, mixing an amount of grain with at least one polypeptide expressed by a transformant organism to form said animal feed, with said polypeptide ordinarily exogenous to said transformed organism.

14. The method of Claim 13 wherein said method comprises forming said transformant organism, whereby said method comprises inserting a genetic construct into a host organism selected from the group consisting of non-toxic eukaryotes and prokaryotes.

15. The method of Claim 14 wherein said method comprises forming said construct for encoding a polypeptide ordinarily exogenous to said transformed organism, whereby said construct is formed by inserting a nucleic acid polymer that expresses a polypeptide desired for animal nutrition into a transfer vector, said gene selected from the group consisting of synthetic nucleic acid polymers and naturally occurring nucleic acid polymers.

16. The method of Claim 15 wherein said transfer vector is selected from the group consisting of plasmids, cosmids, phagemids, and artificial chromosomes.

17. The method of Claim 14 wherein said genetic construct comprises a nucleic acid polymer for expressing said polypeptide and a promoter.

18. The method of Claim 17 wherein said promoter is selected from the group consisting of constitutive promoters and induced promoters.

19. The method of Claim 13 wherein said method comprises forming a synthetic nucleic acid polymer, so that when said nucleic acid polymer is expressed, a polypeptide composition desired for animal nutrition will be resultant expression product.

20. The method of Claim 18 wherein said promoter is selected from the group consisting of: CYC1, ADH1, GAL7, ADH2, GAPDH, LEU2, XPR2, TEF, RPS7, URA3, CUP1, ENO, GAL1/GAL10, GAPDH, PGK, PHO5, *Mfoo1*, GAM1, XYL1, ADH1, PDC1, $AOX1_p$, MOX_p, FMD, GAP, FLD1, PEX8, YPT1, LAC4, PGK, CUP1, *Mfoo1*, CTTI, ADH4, and AMY1.

21. The method of Claim 20 wherein said promoter is selected from the group consisting of AOX 1, GAP, FLD1, PEx8, YP71, and GAPDH.

22. The method of Claim 14 wherein said eukaryote is a yeast strain.

23. The method of Claim 13 wherein said transformed organism is a transformed yeast strain comprising a synthetic nucleic acid molecule for expressing a desired polypeptide and a yeast derived promoter.

24. The method of Claim 22 wherein said yeast strain is selected from the group consisting of *Saccharomyces cerevisiae, Pichia pastoris, Pichia stipidis, Yarrowia spp, Candida spp, Kluyveromyces waltii, Kluyveromyces lactis, Kluyveromyces drosophiliarium, Zygosaccharomyces spp, Schwannomyces occidentalis, Schizosaccharmyces pombe, Hansenula spp*, and *Torulaspora delbrueckii*.

25. The method of Claim 13 wherein said polypeptide is selected from the group consisting of purified peptides and polypeptides held by said transformed organism.

26. The method of Claim 16 wherein said construct, when transfected into said host organism, is selected from the group consisting of epigenetic constructs, inserts into ribosomal DNA, and inserts into host genome.

27. The method of Claim 14 wherein said method comprises mixing said transformed organism with said grain.

28. The method of Claim 13 wherein said polypeptide is comprised of at least five different amino acids.

29. A transformed yeast strain comprising a nucleic acid polymer for encoding a polypeptide ordinarily exogenous to yeast under control of a yeast derived promoter, said nucleic acid polymer selected from the group consisting of synthetic and natural nucleic acid polymers.

30. The transformed yeast strain of Claim 29, whereby said strain is inducible.

31. The transformed yeast strain of Claim 29, whereby said nucleic acid polymer is inserted into said strain's chromosome and said nucleic acid polymer is homozygous.

32. The transformed yeast strain of Claim 29, whereby said polypeptide is held by said strain.

33. The transformed yeast strain of Claim 29, whereby said strain is auxotrophic, but was non-auxotrophic prior to transformation.

34. The transformed yeast strain of Claim 29, whereby said strain is selected from the group consisting of *Saccharomyces cerevisiae, Pichia pastoris, P. stipidis, Yarrowia spp, Candida spp, Kluyveromyces waltii, K. lactis, K. drosophiliarium, Zygosaccharomyces spp, Schwannomyces occidentalis, Schizosaccharmyces pombe, Hansenula spp*, and *Torulaspora delbrueckii*.

35. The transformed yeast strain of Claim 29, whereby said nucleic acid polymer when expressed produces a polypeptide comprised of 3 methionine, 6 histidine, 6 lysine, 2 threonine, 2 isoleucine, 1 valine, and 1 tryptophan residue.

36. The transformed yeast strain of Claim 29 wherein said promoter is selected from the group consisting of AOX 1, GAP, FLD1, PEx8, YP71, and GAPDH.

37. A construct for insertion into a host organism comprising a gene having a nucleic acid polymer for encoding a polypeptide ordinarily exogenous to said organism and a promoter, with said construct selected from the group consisting of plasmids, cosmids, phagemids, and artificial chromosomes.

38. The construct of Claim 37 wherein said construct is a pRS316 plasmid with a GAPDH promoter.

39. The construct of Claim 37 wherein said gene, when expressed, results in a polypeptide for poultry comprising: 6 Lysine, 3 Methionine/Cysteine; 2 Threonine; 1 Valine; 2 Isoleucine; 6 histidine; and 1 Tryptophan amino acid residues.

40. The construct of Claim 37 wherein said gene, when expressed, results in a polypeptide for Swine comprising: 10 Lysine and 3 Methionine/Cysteine residues.

41. The construct of Claim 37 wherein said gene, when expressed, results in a polypeptide for Dairy Beef comprising: 10 Lysine; 2 Methionine/Cysteine; 10 Arginine; and 3 Histidine residues.

42. A method for providing amino acids to animal feed, comprising:

(a) selecting an amount of animal feed;

(b) forming a transformant organism capable of expressing a peptide ordinarily exogenous to said organism;

(c) expressing said peptide; and,

(d) mixing said peptide with said animal feed.

43. A method for producing a yeast additive for use in animal feed comprising, inserting a nucleic acid polymer for expressing a peptide ordinarily exogenous to yeast into a yeast strain, expressing said nucleic acid polymer to produce a peptide.